Guidelines For Water Purveyors

Arsenic in Drinking Water

Washington State Department of Health
Environmental Health Programs
Division of Drinking Water

Fact Sheet
May 2002

Requirements For Water Systems

The Environmental Protection Agency (EPA) requires that water utilities classified as community water systems serving more than 25 people, and non-transient non-community water systems reduce the level of arsenic in their water from 50 parts per billion (ppb) to 10 ppb by January 2006.

Community water systems that have arsenic levels greater than 10 ppb must include the concentration of arsenic detected in their most recent sample, along with a statement on health risks, in the annual Consumer Confidence Report (CCR) distributed to customers in July of each year. Water systems that have arsenic levels of 5-10 ppb must include an educational statement about arsenic in their CCR's.

Consumer Confidence Reports

Arsenic information must be included in annual CCR's sent to water customers by water systems. The Division of Drinking Water is also recommending a special educational statement for systems that are reporting arsenic levels at "less than 10 ppb" where the concentration of arsenic (if any) below 10 ppb is unknown.

For systems reporting 5-10 ppb arsenic:

Either of these language options will meet the requirement:

EPA's Educational Statement – in federal rule:
While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Department of Health Recommended Educational Statement:
Your drinking water currently meets EPA's revised drinking water standard for arsenic. However, it does contain low levels of arsenic. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory diseases are due to factors other than exposure to arsenic. EPA's standard balances the current understanding of arsenic's health effects against the costs of removing arsenic from drinking water.

For systems reporting less than 10 ppb arsenic:

Arsenic in your drinking water has been reported at less than 10 ppb. This means that your drinking water currently meets EPA's newly revised drinking water standard for arsenic. In the future, your Consumer Confidence Report will reflect improved laboratory methods that will more accurately detect the level of arsenic (if any) in your drinking water. EPA believes that consumers should be aware of the uncertain health risks presented by very low levels of arsenic. EPA's standard balances the current understanding of arsenic's health effects against the costs of removing arsenic from drinking water.

For systems reporting more than 10 ppb arsenic:

(EPA language) Some people who drink water that contains arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Financial Assistance For Water Systems

The Drinking Water State Revolving Fund, administered by the Department of Health and the Public Works Board, may be able to help systems move toward compliance with this new standard by offering low interest loans. Information on the State Revolving Fund can be accessed at http://www.doh.wa.gov/ehp/dw/Our_Main_Pages/dwsrf.htm.

In addition, the EPA plans to provide funding for the research and development of more cost-effective technologies to help bring all systems into compliance with the new standard. The agency will also work with small communities to maximize grants and loans.

Water Treatment

These treatment technologies are available to remove arsenic from water:

- **Coagulation/filtration:** This method uses conventional treatment processes to coagulate the arsenic. The treated water is then filtered.
- **Activated alumina:** This method removes arsenic from water by adsorption onto alumina.
- **Reverse osmosis:** This technology uses pressure to force water through a membrane filter, leaving arsenic behind.
- **Anion exchange:** Arsenic is adsorbed onto a resin, and the resin is periodically regenerated with sodium chloride solution.
- **Oxidation/filtration:** This technology oxidizes naturally occurring iron, which binds to arsenic followed by filtration.

For More Information

Washington State Department of Health:
Drinking Water Southwest Regional Office: 360-664-0768
Drinking Water Northwest Regional Office: 253-395-6750
Drinking Water Eastern Regional Office: 509-456-3115
Drinking Water Data & Source Monitoring: Trace Warner, 360-236-3097
Treatment Technology Options: Sam Perry, 253-395-6755
Arsenic Health Effects: Jim W. White, 360-236-3192

Division of Drinking Water: http://www.doh.wa.gov/ehp/dw
EPA Arsenic Information: http://www.epa.gov/OGWDW/arsenic.html
Agency for Toxic Substances and Disease Registry (U.S. Centers for Disease Control and Prevention): http://www.atsdr.cdc.gov/tfacts2.html

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